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U. S. Department of Agriculture

UNIVERSITY OF IDAHO
LAND-GRANT COLLEGE RADIO PROGRAM

Broadcast in the National Farm and Home Hour, 9:30 - 10:15 A.M., January 18, 1939, from Moscow, Idaho, over 99 stations associated with the Blue Network of the National Broadcasting Company.

--ooOoo--

J. PIERCE:

The National Farm and Home Hour!

BAND:

"Go, Vandals, Go."

PIERCE:

"Go, Vandals, Go" was played by the University Concert Band under the direction of Bernard Fitzgerald, Assistant Professor of Music, and introduces today's Farm and Home Hour program, which originates on the campus of the University of Idaho at Moscow. This is another in the monthly series of broadcasts from Land-Grant Colleges of the United States.

We are speaking from the Gothic auditorium of the Administration Building on the University of Idaho campus. The crisp wintry air puts snap and vigor into anyone who can stand here on the hill and observe the 600-acre campus.

Before I become too oratorical about the beautiful setting of the University of Idaho, I'll step aside in favor of your narrator for this program, Herbert J. Wunderlich, Dean of Men.

Step over here, Dean Wunderlich, and narrate!

NARRATOR:

Thank you, Jennings Pierce, and greetings to friends and alumni who are listening in from the Pacific to the Atlantic.

We are pleased to have you as our guests today while the University of Idaho takes its turn in this series of Land-Grant College programs. While we say good morning here, to our friends 2500 miles away on the Atlantic it will be good afternoon.

Idaho is a unique State - shaped very much like a frying pan with the handle pointing toward our neighbor, British Columbia, Canada. Moscow is located in the northern panhandle of the State - almost in the heart of the fertile Palouse wheat district. A short distance to the north are the Coeur d'Alenes, rich lead, silver, and zinc mines. To the east lies the world's largest area of virgin white pine timber. The fertile, volcanic ash plateau of the south has sprung by the magic of irrigation from a sagebrush waste into a famous potato, sugarbeet, and fruit producing area. These represent Idaho's three great industries: agriculture, mining, and forestry. The Snake River,

(over)

often called the lifestream of Idaho's irrigation system, cuts five hundred miles through a plateau, whose altitudes vary from 700 to 6,000 feet above sea level. Idaho is almost as large as England and Scotland combined.

Now in order to help us understand the place of the University of Idaho as a Land-Grant institution in the history of the State and the development of its resources, let's turn to Mr. Harrison C. Dale, president of the University. President Dale.

PRESIDENT DALE: (Copy attached)

NARRATOR:

Thank you for your interesting commentary on the relationship of the University and State, President Dale! Now, a few additional highlights in the early history of the University.

FANFARE:

VOICE 1:

In the Admission Bill of the State of Idaho of July 3, 1890, the Federal Government granted 286,080 acres to support the University of Idaho, its College of Agriculture, and School of Science.

VOICE 2:

Christmas morning, 1891, in Washington, D. C., the Secretary of the Interior, John W. Noble, handed Regent Willis Sweet of Moscow, Idaho a check for \$15,000, the first warrant for the University under the Morrill-Hatch Acts.

VOICE 3:

Early in October, 1892, President Gault and a faculty of one met their students in the midst of a plowed field. Thirty eager young people, not one of college grade, came to register. Many had come long distances on horseback.

VOICE 1:

The first graduating class of June 10, 1896 numbered four, two of whom are still living. United States Senator William E. Borah, then a rising young attorney of Boise, was the first Commencement speaker. The University was under way!

VOICE 2:

Regent Forney reported in 1898, "We are a University in large measure maintained by Agricultural funds, and at the same time we are an Agricultural College resting upon a University foundation, occupying a University building . . ."

VOICE 3:

The University has grown with the State! Fifty years ago the State population was 88,000, an average of one to every square miles. Now it is six times that, and the student body twenty-one times as

large, or approximately 3,000 students.

BAND:

"Come, Fellows!"

NARRATOR:

With the growth of the State University has come the development of many fields: agriculture, letters and science, engineering, law, forestry, education, home economics, mines, and business administration. Each has had its place in the training and development of the State's future citizens toward the understanding of our resources and how best to use them.

From Idaho's twenty million acres of forests come every year about one billion board feet of lumber, enough to build nearly seventy thousand average five-room homes. Let's listen in on ways the University is contributing to this resource, timber.

FANFARE:

VOICE 1:

Thanks to research findings in selective cutting Idaho is growing another crop of timber while one is being cut. Continuous production thus is achieved!

VOICE 2:

The School of Forestry is doing research on the three great hazards: forest fires, insects, and blister rust.

VOICE 3:

In laboratories Idaho wood chemists are taking wood wastes and developing plastics and other products of commercial importance!

VOICE 1:

Range management research by the University is vital to live-stock operators and the watersheds so indispensable to the State's irrigated agriculture!

VOICE 2:

Game management! Another forestry project in which the School is doing research! Upon the game management specialist falls the job of developing a program which will assure the good fishing and hunting Idaho's residents and thousands of tourist visitors demand.

VOICE 3:

Perpetuation and protection of the forests, range management, and development of wildlife all tie together for the maximum pleasure of every citizen as he goes into the forests for his recreation, whether it be in summer or winter.

FANFARE:

NARRATOR:

The outstanding natural resources of Idaho are its water, its soil,

its timber, its minerals, and its scenery. The job of developing these resources is an engineering one calling for professional men with proper technical training who can discover and apply scientific principles. Training such men and developing and applying the requisite scientific principles is the contribution of the College of Engineering, for example: dams for storage of irrigation water, power development, and flood control work. Laboratories and personnel of the College of Engineering have developed a technique which has made possible the great mileage of dustless, mudless, low cost roads which crisscross the State.

The School of Mines, in cooperation with state and federal bureaus of mines and geological survey, has conducted for some twenty years various studies to develop, conserve, and prevent waste of Idaho's mineral resources.

Numerous geologic reports have aided greatly the development of new ore bodies. Metallurgical testing and research have provided new and improved methods of metal recovery, thereby preventing waste. Such are the highlight developments in the Idaho fields of forestry, engineering, and mining at the University of Idaho.

We now hear Selections from "The Light On The Mountains," which is the English translation from the Indian word, E-dah-ho. This original composition will be sung by the University of Idaho Choir, assisted by Professor Carl Claus and the University Orchestra, all under the direction of Professor Archie Jones, head of the Music Department. The cantata was especially written for this broadcast and the Semi-Centennial of the University. Professor John Cushman adopted the words from Talbot Jennings' original pageant of the same name. The music is by Hall Macklin, Assistant Professor of Music. The Light On The Mountains!

VANDALEERS:

Cantata.

NARRATOR:

This premiere performance of The Light On The Mountains, an original cantata written for this occasion by Professors Hall Macklin and John Cushman, was sung by the University of Idaho Choir under the direction of Professor Archie Jones.

We haven't said anything about agriculture this morning, have we? It's one of the most important industries in the State. We have with us Edward J. Iddings, Dean of the College of Agriculture, who has a message for us. Dean Iddings.

IDDINGS: (Copy attached)

ANNOUNCER:

Thank you, Dean Iddings, for telling us about the development of the Experiment Station and the College of Agriculture at the University of Idaho.

STATION
IDENTIFICATION:

ANNOUNCER:

This National Farm and Home Hour is coming to you from the University of Idaho at Moscow.

BEANS

BAND:

"Call of Elks."

ANNOUNCER:

That was the University of Idaho Concert Band playing the "Call of Elks" under the direction of Professor Bernard Fitzgerald. Carry on, Dean Wunderlich, will you?

NARRATOR:

With pleasure. There are some highlight stories connected with this Land-Grant College's Conservation and Utilization of the Resources of the State of Idaho.

FANFARE:

TELEPHONE: (Bell rings and receiver is lifted.)

COUNTY AGENT:

Hello! Hello! Yes this is the County Agent. You say your beans are all curled up and diseased. You're about the tenth grower calling today to say the same thing. We don't know for sure what it is, but I've sent a hurry-up call to the College of Agriculture for help. I'll let you know what they say. Good bye.

NARRATOR:

Well, Dean C. W. Hungerford, Pathologist and Vice-Director of our Agricultural Experiment Station, what did you say?

HUNGERFORD:

In response to the desperate calls, our plant pathologists immediately went into the stricken section. They found that the mosaic virus disease was almost universally present. It looked as though Idaho's bean industry was doomed.

NARRATOR:

How did you conquer the mosaic?

HUNGERFORD:

We managed this way. Now the Great Northern had become thoroughly established as the popular variety. Market outlets had been fixed, and the growers frowned on suggestions of change. It looked as though they would rather take the count from the mosaic attack. That put the problem

squarely up to the station. We had to find a Great Northern bean of some kind that would hold its own against mosaic or see the bean industry pass from the picture.

NARRATOR:

I've always wanted to know the inside story of how new plants are secured. Tell us how you got those new beans, Dr. Hungerford.

HUNGERFORD:

We assigned Dr. Walter Pierce to the job. His home was in Twin Falls. He studied agriculture with us. He had a personal interest in saving one of his home industries. Fields were anywhere from fifty per cent to one hundred per cent destroyed. Here and there would be a plant seemingly untouched by the scourge. That was the kind of a bean he wanted.

Pierce saved every such survivor he could find. Each one was the potential foundation of a new strain. Pierce's keen observation was rewarded by the discovery of strains which were entirely resistant to the mosaic disease and which possessed superior qualities of uniformity and yielding ability. The beans now grown came from some of the plants he found on his searches for plants with natural resistance and from hybrids developed to obtain resistance to mosaic and to other serious bean diseases.

NARRATOR:

How did the bean growers welcome the development of these new varieties?

HUNGERFORD:

They were quick to realize their advantages. The first seed was distributed in 1930, and in 1938 about 95 per cent of all of the beans grown in the region were of the University developed varieties.

From 1930 to 1936 we kept careful check on the yields of the new beans. We found they yielded 65 per cent more than the common Great Northern they displaced.

NARRATOR:

Thank you, Dr. Hungerford, for this interesting account of how research saved the bean industry.

So ends number one of the University's contributions.

FANFARE:

POTATOES

NARRATOR:

During recent years I have noticed that people in the East and Middle West associate the word Idaho with the name of Senator Borah, Sun Valley, and the Idaho baked potato. Many have asked me how the Idaho potatoes have achieved such importance. Here is a real opportunity

to clear up a point or two about the Idaho potato. Can you help, Dean Hungerford?

HUNGERFORD:

Yes, I'll be glad to! Here is the superintendent of our Aberdeen Agricultural Experiment Farm, Mr. John Toeves. He works in the heart of the potato country of southern Idaho.

Come on over, Mr. Toeves. You gentlemen carry on about potatoes.

NARRATOR:

How do you do, Mr. Toeves. What are the factors which enable farmers in Idaho to produce these high quality potatoes?

TOEVS:

Well, Idaho has many natural advantages for potato production: rich volcanic soil, adequate irrigation water, and favorable climate with plenty of sunshine and cool nights.

NARRATOR:

Why is a constant supply of irrigation water necessary?

TOEVS:

We would have sagebrush desert without it. Furthermore, through experimentation we have learned that potatoes must have a uniform supply of moisture. Otherwise, they become rough and irregular in shape. Fortunately, we can control the moisture through irrigation.

NARRATOR:

And that ties up with what the Colleges of Forestry and Engineering are doing in reforestation and water conservation projects, doesn't it? By the way what potato yields per acre are you getting in the State?

TOEVS:

Yields of five hundred bushels per acre are not uncommon. Average yields of over 250 bushels per acre are produced in several of the best potato regions of the State.

NARRATOR:

Well, that's certainly utilizing a desert to good advantage. I understand seed production is an important factor?

TOEVS:

Yes. After many trials we have learned that our best seed is produced at high altitudes, some as high as 6,500 feet above sea level. We try out the seed early in the spring before the growers plant it.

NARRATOR:

How in the world can you test potatoes before they are planted?

TOEVS:

We have a district along the Snake River near Lewiston with an

elevation of approximately 700 feet. Here the growing season is long. The Experiment Station, early in the year, tests samples of certified seed. Growers are advised in advance as to the quality of seed they propose to plant.

NARRATOR:

I think that would be an advantage to commercial growers.

TOEVS:

Yes, indeed! Furthermore, Idaho potato producers are making the most of their opportunities. They are up-to-date and are using the latest knowledge of disease and insect control, of cultural practices, of handling, sorting, and storage, so as to produce a large percentage of fine potatoes for which the State is famous.

NARRATOR:

By the way, John, what does the Idaho potato crop amount to each year in bushels?

TOEVS:

Upwards of twenty-five million bushels.

NARRATOR:

That would make a lot of baked potatoes! Do they all find their way to market?

TOEVS:

No, they don't all go to market. Those which are injured or imperfect in any way are graded as culls. Growers sell only those of top quality.

NARRATOR:

What do they do with the culls?

TOEVS:

To help us find the best way of using these culls we called upon the Experiment Station. Successful experiments on feeding these culls to livestock - dairy cows, hogs, sheep, and even fattening cattle - have resulted. Since 1932 the Experiment Station has been digging into the field of "new uses for agricultural products," particularly cull potatoes. Say, Mr. Wunderlich, here is Professor Hobart Beresford, who has been working on this very problem. Suppose we hear from him.

NARRATOR:

That's a good idea, since Professor Beresford is head of the Agricultural Engineering Department. Professor Beresford, John and I have been talking about using cull potatoes in new ways. He has my curiosity worked up. What's he driving at?

BERESFORD:

What Mr. Toebs has been aiming at is our experimental plant to produce alcohol from cull potatoes.

NARRATOR:

That is something! Alcohol from cull potatoes. Have you started operations yet?

BERESFORD:

Yes, our governmental permit to operate was received a couple of weeks ago. Individual farmers and cooperative associations of potato growers who are interested in this project are contributing the raw material.

NARRATOR:

How will the alcohol be used?

BERESFORD:

There will be a place for this product in a gasoline blend to be used as a fuel treatment, to improve the combustion of low grade gasolines in modern high compression engines. Of course, we can't anticipate very accurately just what the future of this project will be, but we are looking ahead in this organized effort to help the farmer solve a problem of handling surplus quantities of cull potatoes.

NARRATOR:

Another great contribution of agricultural research to public welfare. And so ends highlight number two!

BAND:

"We're Here To Win."

PHOSPHATES

NARRATOR:

It has been said that man's weakest hold upon the earth is the phosphorus supply and that the duration of this supply will govern the period of survival of the human race. Dr. Cady, as chairman of the University Phosphate Committee, what do you have to say about this?

CADY:

That is probably true, but right here in Idaho we have enough phosphate rock to supply the phosphorus needs of the United States for over two thousand years. So far as we know, they are the largest phosphate beds in the world.

NARRATOR:

No wonder the University of Idaho has been so interested in the broad field of phosphates with so many billion tons of phosphates in Idaho. There is one little point I would like cleared, Dr. Cady. When speaking about human needs we use the word phosphorus, and again we talk of phosphates. What is the difference?

CADY:

Phosphorus comes from phosphate rock. To convert the raw rock into more usable compounds which can readily pass along their phosphorus to growing plants, some form of chemical treatment is necessary.

NARRATOR:

I suppose that agriculture is the main consumer of phosphates?

CADY:

That is correct, but non-agricultural uses are growing steadily.

NARRATOR:

Tell me, how can a farmer know when his soil needs phosphorus?

CADY:

Sickly plants and low crop yields may indicate the soil needs more phosphorus. Since there may be other causes for such condition in plants, the College of Agriculture determines phosphorus need by actual field tests. Some general indications of phosphates deficiencies may be determined by means of chemical tests.

NARRATOR:

At several places this summer I saw signs along the highway in Idaho farming districts which read "Cooperative Fertilizer Demonstrations." Did they have anything to do with phosphates?

CADY:

Many of them did. You see, for twenty-three years, ever since 1915, the University has been carrying on field trials and demonstrations with various kinds of fertilizers. Every one of these field plots represents another attempt to get basic information for Idaho farmers.

NARRATOR:

What has been the outcome of the experimentation?

CADY:

Increased use of phosphate fertilizer by sugarbeet, potato, alfalfa, legume seed, and truck crop growers.

NARRATOR:

Now, Dr. Cady, all you have told me applies to farm crops. Idaho is a great livestock State, too. You said that phosphorus is essential for animal health. What have you done for the range livestock?

CADY:

In the more recent phosphate investigations by the Experiment Station, the question arose as to whether range forages contained sufficient phosphorus for the requirements for range animals. To shed light on this question we obtained samples of forage plants from important range areas. Over 500 samples have been analyzed. Blood tests from range livestock also were analyzed for phosphorus content. Out of this should come data which will make it possible to locate the areas where natural forages do not provide sufficient phosphorus.

NARRATOR:

There certainly are a lot of angles to this phosphate question. Tell me something about the program of the University Phosphate Committee.

CADY:

With pleasure. The University has all of the technical divisions involved in the various phases of phosphate ore treatment and utilization. The School of Mines and the State Bureau of Mines are studying phases involving ore dressing, mining, geology, and metallurgy. The Department of Chemistry and the College of Engineering are working on methods of treating the raw phosphates. The Agricultural Experiment Station, with its branch experimental farm strategically located throughout the leading farming areas of the State and with its cooperative relationships with the Extension Division through county agent work, will continue the field trials on all phases of phosphate utilization.

NARRATOR:

Thank you, Professor Cady, for this information. Dr. Louis Cady is chairman of the University Phosphate Committee.

BAND:

"The Thunderer March."

NARRATOR:

Before our finale, let's hear from the student body on the campus at the University of Idaho. Step up here Yell King, Bill Moats.

YELL KING:

Yell.

BAND:

"Here's A Toast To Idaho."

ANNOUNCER:

And so we come to the end of another Land-Grant College program, a program which has told us of the activities and services of the University of Idaho to the State and to the Nation. The program has originated on the University of Idaho campus at Moscow, Idaho.

MUSIC UP:

ANNOUNCER:

Today's National Farm and Home Hour has reached you through stations of the National Broadcasting Company.

National Farm and Home Hour
"Land-Grant Colleges"
Dean E. J. Iddings, Message
January 18, 1939. 9:30 A.M.

When the Experiment Station was established in 1892 the agricultural resources of Idaho were to a large extent undetermined. A few areas had been under cultivation twenty years or more, but relatively few commodity specialties had been thoroughly developed even in those older areas. The real agricultural possibilities of the State were largely a matter of conjecture.

Today, forty-seven years later, Idaho agriculture represents an annual income of about \$120,000,000, the State's biggest industry. The Agricultural College has 800 acres of land adjoining the campus, 600 acres of which are devoted to the University herds and flocks, dairy and beef cattle, sheep, hogs, horses, and poultry, and 200 acres to experimental plots on which have been developed many new crop varieties, after which they are tried at the branch experimental stations located at strategic points in Idaho and also tried out on the land of individual farmers.

Years of careful breeding and selection by the Dairy Department have resulted in the development at the University of one of the finest dairy herds owned by an Agricultural College. This herd was developed to demonstrate to the ambitious dairy farmer that it is possible to secure excellent herd improvement through economical constructive breeding. Due in no small measure to the activity of the Dairy Department, Idaho has more cooperative bull associations than any other Western state. These associations give the dairymen better sires at lower costs.

Land classification research in the Agricultural Economics Department has produced valuable data on most of the agricultural counties. Making the most efficient use of our native forage plants - you know Idaho is a great livestock State - is the object of work in the Animal Husbandry Department. Encouraging progress has been made by the Entomology Department in the control of various injurious insects by natural parasites. How to overcome the loss of productivity of old orchard lands may be indicated by research in the Horticulture Department.

A statewide weed eradication program resulted in cleaning up about 30,000 acres of perennial weeds. Improved corn and grain varieties have been introduced. During the last two years, 475,000 trees from the University Nursery were planted on 700 Idaho farms.

An inventory in almost any farming region of the State will reveal that many of the crops grown are largely the product of the Agricultural

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Experiment Station. New breeds of livestock and better systems of management and feeding have resulted largely from research in animal breeding and nutrition. Advances in farm machinery and farm buildings and in handling the products of the farm have resulted from research in Agricultural Engineering. In brief, there are hundreds of things the Idaho farmer does which have been established through agricultural research.

The Extension Division of the College of Agriculture, through twelve field specialists, thirty-six county and district extension agents, and nine home demonstration agents carries to the farmers and home makers the new knowledge developed through agricultural and home economics research, and thus contributes to the prosperity and general welfare of Idaho's rural people.

From the day when the first student enrolled in the College of Agriculture, when the first Experiment Station worker and the first Extension Division specialist began the scientific study of agriculture's problems in Idaho, the fundamental objective of the College of Agriculture never has changed. Located in the heart of a great agricultural area, with its own experimental farms adjoining the campus on one side and the manifold cultural and scientific facilities of a great university at the other end of the campus, the Land-Grant College always has and always will assist in every possible way the development of Idaho's resources.

National Farm and Home Hour
"Land Grant Colleges"
President H. C. Dale, Message
January 18, 1939, 9:30 a.m.

Just over a year ago, in the fall of 1937, the Land Grant Colleges and Universities of the United States observed with fitting ceremonies the seventy-fifth anniversary of the passage of the Morrill Act, under which the agricultural colleges were first established. The significance of that piece of legislation was two-fold. First, it paved the way for a system of distinctively American agriculture, and second, it recognized that the fruits of the intellect cannot properly be divorced from the fruits of the soil.

This year the State of Idaho is observing a centennial and more particularly a semi-centennial whose keynote is the same interdependence of the cultural and the agricultural. One hundred years ago, in 1839, a hardy band of pioneer missionaries after two years of preliminary effort started the first farming settlement in Idaho at Lapwai on the Clearwater. Their chief possessions were some quantities of seeds and a printing press. From the seeds came many of Idaho's first fruits. From the printing press issued the first tiny streamlet in our intellectual life. Fifty years later, on January 30, 1889, this intellectual rivulet became what soon was to be a mighty stream, for on that day the Governor of the Idaho Territory, E. A. Stevenson, signed the bill creating the University of Idaho.

Twelve days hence, on January 30, 1939, the University, the alumni, and the people of the state will celebrate this fiftieth birthday of our Alma Mater.

The first appropriation back there half a century ago was \$15,000 for the purchase of land and the erection of a building. Many institutions have started with equally meager resources, but it is safe to say that only the availability of Federal funds under the Morrill Act and Hatch Act made possible the survival of this University. The professor of Agronomy is said to have taught Latin. The professor of Military Science and Tactics was sought to teach Mathematics. His name was Edward R. Chrisman, a young Westpointer, and he is revered today as one of the grand old men of Idaho.

With better times and ampler funds, the University has remained true to the land grant college ideal. In agriculture, engineering, and Forestry it has helped develop not only the vast natural resources, but the equally precious human resources of Idaho.

